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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/501,026

07/09/2004

Robert D. Coleman

7255-5

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05/14/2008

WOODARD, EMHARDT, MORIARTY, MCNETT & HENRY LLP  
111 MONUMENT CIRCLE, SUITE 3700  
INDIANAPOLIS, IN 46204-5137

EXAMINER

CHUI, MEI PING

ART UNIT

PAPER NUMBER

1616

MAIL DATE

DELIVERY MODE

05/14/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/501,026	<b>Applicant(s)</b> COLEMAN, ROBERT D.	
	<b>Examiner</b> MEI-PING CHUI	<b>Art Unit</b> 1616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 7-9, 13, 14 and 26-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-6, 10-12 and 15-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

***DETAILED ACTION******Status of Action***

Receipt of Remarks filed on 12/20/2007 is acknowledged. Claims 1, 4, 5, and 19 have been amended.

Receipt of the terminal disclaimer filed on 02/15/2008 is acknowledged. The terminal disclaimer has been considered by the Examiner and has been recorded and filed. Upon further search, the examiner found other non-elected species of the organic carboxylic acid; therefore, the election of species for the organic carboxylic acid on the record dated 07/13/2007 and 09/20/2007, is withdrawn for the examination purpose. In addition, upon further consideration, new ground(s) of rejections are made in view of the Arguments/Remarks filed on 12/20/2007.

***Status of Claims***

Accordingly, claims 1-6, 10-12 and 15-25 are presented for examination on the merits for patentability as they read upon the elected subject matter, and claims 7-9, 13-14 and 26-32 directed to non-elected invention are withdrawn.

Comment: Applicant is advised to use the term “organic carboxylic acid” consistently in claims 4, 6, 10-12, 15-16, 19 and 23-24. In addition, claim 3 recites the terms “pentanoic” and “hexanoic”, and they should be written as “pentanoic acid” and “hexanoic acid”.

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***Withdrawn rejections***

(1) The previous rejection with respect to claims 5 and 19, under **35 U.S.C. § 112 second paragraph**, are withdrawn in view of the amendment filed on 12/20/2007.

(2) Applicant's arguments (see Remarks: pages 2-3 filed on 12/20/2007) with respect to the rejections of claim(s) 1-6, 10-12 and 15-25, under **35 U.S.C. § 102(b) and 35 U.S.C. § 103(a)**, have been fully considered and are persuasive. Therefore, the rejections have been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of the Remarks/Amendment filed on 12/20/2007.

***New Ground(s) of Rejections***

***Claim Rejections - 35 USC § 112 second paragraph***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

(1) **Claims 1-2, 11-12, 19-22 and 25** are rejected 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the composition comprising organic carboxylic acid. However, the claim also recites the organic carboxylic acid consists diethylamine, which is not an

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acid. It is unclear if the diethylamine is a salt of the organic carboxylic acid or a single species by itself. Therefore, one of ordinary skill in the art would not be reasonably apprised of the scope of the invention and the claims are therefore rendered indefinite.

Claims 2, 11-12, 19-22 and 25 are rejected because they depend from claim 1, and thus incorporate its limitation.

(2) **Claim 15** recites the subgenus of the organic carboxylic acid in that “the organic carboxylic acid is “a monocarboxylic acid”, according to claim 1. However, claim 1 recites the species of organic carboxylic acid using the transitional phrase “consisting of” that limits the organic carboxylic acids only to those recited in the claim. It is unclear as to what the metes and bounds of the organic carboxylic acid(s) are, i.e. which monocarboxylic acid is included or excluded, in the composition as claimed in claim 15. Therefore, one of ordinary skill in the art would not be reasonably apprised of the scope of the invention and the claims are therefore rendered indefinite.

### ***Claim Rejection - 35 U.S.C. § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102(b) that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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**(1) Claims 1, 3-4, 15, 17-18, 20 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Tate, D. (WO 91/13552).**

The instant claims are directed to a fungicidal composition comprising (i) a fatty acid, i.e. oleic acid or palmitic acid, and (ii) an organic carboxylic acid, i.e. alanine, aspartic acid or glutamic acid, (iii) a carrier, and further comprising (iv) an adjuvant, an emulsifier or a diluent.

**With respect to claims 1, 3 and 18,** Tate, D. discloses a fungicidal composition for application to plants (page 1, line 1). Tate, D. discloses that the fungicidal composition comprises chemo-tactic ingredients that can be used to combat fungal and other myco-pathogenic infections in plants (page 1, lines 9 and 11-13). Tate, D. also discloses that the chemo-tactic ingredients are substances that produce a positive myco-chemotaxic response from the target fungi, wherein the chemo-tactic ingredients includes amino acids, i.e. glutamic acid, aspartic acid, or alanine, and fatty acids, i.e. oleic acid or palmitic acid added into water (page 2, lines 36-38; page 3, lines 1-3 and 18-25, and page 10, Examples 6 and 7). Therefore, instant claims 1, 3 and 18 are anticipated.

**With respect to claims 4 and 15,** Tate, D. discloses an amino acid alanine, which has a methyl side chain and a single carboxylic acid functionality contain in its structure. Therefore, the limitations recites in the instant claims 4 and 15 are anticipated.

**With respect to claim 17,** Tate, D. further discloses that the fungicidal formulation also comprises suitable diluents, carriers, or additives, which is usually

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present in a fungicidal composition (page 5, lines 31-37). Therefore, instant claim 17 is anticipated.

**With respect to claims 20 and 25**, Applicant recites the intended use of the composition in that the composition is suitable for application to harvested fruits, vegetables, berries, seeds, leaves, flowers and nuts. The intended use of the claimed composition does not patentably distinguish the composition, per se, since such undisclosed use is inherent in the reference composition. In order to be limiting, the intended use must create a structural difference between the claimed composition and the prior art composition. In the instant case, the intended use does not create a structural difference, thus the intended use is not limiting.

Therefore, instant claims 20 and 25 are also anticipated by Tate, D.

**(2) Claims 1, 3-5, 15, 18, 20 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Shalom, B. D. (U. S. Patent No. 5,143,718).**

The instant claims are directed to a fungicidal composition comprising (i) a fatty acid, i.e. oleic acid, linoleic acid, undecenoic acid, octanoic acid, stearic acid or palmitic acid, and (ii) an organic carboxylic acid, i.e. benzoic acid, salicylic acid, ascorbic acid, formic acid, fumaric acid, cinnamic acid, glycine, alanine, valine, leucine, isoleucine, serine or threonine, (iii) a carrier, wherein the carrier is an alcohol.

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**With respect to claims 1, 3, and 18**, Shalom, B. D. discloses a composition comprising one or more of organic acids and a carrier, wherein the organic acid is an aluminum salt of organic acid with antifungal property (column 2, lines 49-60). Shalom, B. D. discloses that the useful organic acids are benzoic acid, salicylic acid, ascorbic acid, fatty acids, i.e. oleic acid, linoleic acid, undecenoic acid, octanoic acid, palmitic acid or stearic acid, formic acid, fumaric acid, cinnamic acid, and naturally occurring amino acids, i.e. glycine, alanine, valine, leucine, isoleucine, serine or threonine (column 3, lines 1-13, and column 6, claims 1 and 4). Shalom, B. D. also discloses that the carrier of the composition is a liquid carrier, i.e. alcohol (column 4, line 3). In addition, Shalom, B. D. discloses that the fatty acids, i.e. undecenoic acid and octanoic acid, are known to have anti-fungal properties (column 3, lines 45-47). Therefore, instant claims 1, 3 and 18 are anticipated.

**With respect to claims 4 and 15**, Shalom, B. D. discloses that the composition can comprise amino acids, i.e. alanine or valine, in which alanine has a methyl side-chain and valine has an isopropyl side-chain, and carboxylic acid functionality contain in their structures. Therefore, the limitations recite in the instant claims 4 and 15 are anticipated.

**With respect to claim 5**, Shalom, B. D. also discloses that the composition can comprise fatty acid, i.e. octanoic acid, which is commonly known as caprylic acid. Therefore, instant claim 5 is anticipated by Shalom, B. D.



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**With respect to claims 20 and 25**, Applicant recites the intended use of the composition in that the composition is suitable for application to harvested fruits, vegetables, berries, seeds, leaves, flowers and nuts. The intended use of the claimed composition does not patentably distinguish the prior art composition, per se, since such undisclosed use is inherent in the reference composition. In order to be limiting, the intended use must create a structural difference between the claimed composition and the prior art composition. In the instant case, the intended use of the instantly claimed composition does not create a structural difference that distinguishes it from the prior art composition, thus the intended use is not limiting.

Therefore, instant claims 20 and 25 are also anticipated by Shalom, B. D.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.

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3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claim 1-6, 10-12 and 15-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sedun et al. (U. S. Patent No. 5,246,716) in view of Roberts, J. R. (U. S. Patent No. 5,741,502).**

***Applicant Claims***

Applicant claims a composition comprising **(i)** a fatty acid having 5-22 carbon atoms, i.e. octanoic acid or pelargonic acid, present in an amount of 1-99 % by volume, **(ii)** an organic carboxylic acid, i.e. glycolic acid, present in an amount of 0.01-80 % by volume, and **(iii)** a carrier, i.e. water or vegetable oil. Applicant also claims the composition comprising an emulsifier or a diluent.

***Determination of the scope and content of the prior art (MPEP 2141.01)***

Sedun et al. teach an environmental safe and non-phytotoxic composition which is useful in protecting plants from fungal infection (column 1, lines 6-8).

Sedun et al. teach that the fungicidal composition comprises an effective amount of one active ingredient, or a mixture, from metal salts of mono-carboxylic fatty acids, which having 4 to 18 carbon atoms, and a liquid carrier (column 1, lines 55-58 and 62),

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Sedun et al. also teach that the fatty acid metal salt active can be the sole active ingredient, or in combination with other active ingredients that can broaden the antifungal spectrum of the composition (column 1, lines 65-67 and column 2, line 1).

Sedun et al. also teach that the metal salts of the fatty acid can be calcium salts of octanoate, nonanoate, hexanoate or heptanoate, which is present in an amount from about 0.05-5 % by weight relative to the total weight of the composition. In addition, Sedun et al. teach that the effective amount of the active fatty acid salt will vary depending upon the identity of the fatty salt used, as some fatty acids are more fungicidally potent than others (column 2, lines 49-57 and column 12, claims 5-7).

Sedun et al. also teach that the composition comprises a carrier, i.e. water. However, other useful carriers, i.e. vegetable oils, light mineral oils, or cottonseed oil, can also be used to substitute water for the composition (column 3, lines 18, and 21-29). Furthermore, Sedun et al. teach that the composition can be in the form of a concentrated, or it can be further diluted with water prior to use (column 4, lines 1, 17, 39-41 and 55-59).

Sedun et al. teach that the fungicidal composition also comprises formulation enhancing agents, i.e. gums, dispersants or wetting agents (column 2, lines 3-9).

It is noted that octanoic and nonanoic acids are known in the art as caprylic acid and pelargonic acid, respectively.

**With respect to claims 2, 21 and 22**, Sedun et al. teach that the metal salt of the fatty acid, i.e. nonanoic acid, which is present in an amount from about 0.05 % to 5.0 % by weight relative to the total weight of the composition (column 2, lines 49-57 and column 12, claims 5-7). The % volume of the fatty acid, i.e. nonanoic acid, for example,

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presents in the composition can be calculated by converting the % weight of the nonanoic acid into the % volume using the density (0.9 g/ml) of nonanoic acid. For example, 0.05 % to 5 % by weight of nonanoic acid corresponds to 0.056 % to 5.56 % by volume of nonanoic acid in the composition.

*Ascertainment of the difference between the prior art and the claims*  
(MPEP 2141.02)

(1) However, Sedun et al. do not teach the fungicidal composition comprising an organic carboxylic acid, which is different than the fatty acid as claimed. However, this deficiency is cured by the teaching of Roberts, J. R.

Roberts, J. R. teaches an adjuvant composition which improves the chemical and physical properties of a fungicide (column 1, lines 1-20). Roberts, J. R. teaches that adjuvant(s) can be added to a composition to enhance biological activity of the pesticide or to reduce chemical instability and phytotoxicity (column 1, lines 22-41).

Roberts, J. R. also teaches that the adjuvant composition comprises buffering agent in an appropriated amount to maintain the pH of the composition within a desired pH range (column 2, lines 58-60 and column 3, lines 1-6).

Roberts, J. R. also teach that the suitable buffering agent includes glutaric acid, gluconic acid, glycolic acid, acrylic acid or C<sub>1</sub>-C<sub>6</sub> carboxylic acids, and the amount of the buffering agent can be present from about 0.5 % to about 10 % by weight in the formulation. However, the amount can be varied and preferably present in the amount in

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which the pH reduction could be accomplished by using no more than 0.5 % by volume of the final composition (column 6, lines 51-67 and column 7, lines 1-3). Roberts, J. R. further teaches that oil/emulsifier or water can also be added to the buffering agent to give a solution (column 9, lines 19-21).

**With respect to claims 4, 15 and 16**, Roberts, J. R. teaches that the buffering agent can be glycolic acid. It is known in the art that glycolic acid is a mono-carboxylic acid which has a straight alkyl chain substituted with a hydroxyl group.

**With respect to claims 10, 23 and 24**, Roberts, J. D. teaches that the buffering agent, i.e. glycolic acid, can be used in the adjuvant composition and is present in an amount about 0.5 % to 10 % by weight (column 6, lines 51-67 and column 7, lines 1-3). The % volume of the glycolic acid (organic carboxylic acid) present in the composition can be calculated by converting the % weight of the glycolic acid into the % volume using the density (1.27 g/ml) of glycolic acid. For example, 0.5 % to 10 % by weight of glycolic acid, as taught by Roberts, J. R., corresponds to 0.39 % to 7.87 % by volume of glycolic acid in the composition.

(2) **With respect to claims 11 and 12**, the combined teachings of Sedun et al. and Roberts, J. D. do not explicitly teach the weight ratio of fatty acid and organic carboxylic acid. However, the weight ratio between the fatty acid, i.e. nonanoic acid (pelargonic acid), and the organic carboxylic acid, i.e. glycolic acid, based on the amount taught above, falls within the ranges of 1:1000 to 1000:1, or 1:5 to 5:1, as instantly claimed. For example, the weight of the metal salts of nonanoic acid can be present in an amount of

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2.5% and the weight of the organic carboxylic acid can be present in an amount of 0.5 %, which corresponds to a weight ratio of 5:1.

***Finding of prima facie obviousness Rational and Motivation  
(MPEP 2142-2143)***

It would have been obvious to a person of ordinary skilled in the art at the time the invention was made to combine the teachings of Sedun et al. and Roberts, J. R. to arrive at the instant claimed invention.

One of ordinary skill also would have been motivated to utilize a salt of fatty acid in combination with an organic carboxylic acid, i.e. glycolic acid, because the organic carboxylic acid can act as an adjuvant and used in a fungicidal composition for adjusting the composition's pH as taught by Roberts, J. R. Therefore, it would be beneficial to add the organic carboxylic acid with a fungicide, such as an antifungal fatty acid, so that the antifungal activity of the fatty acid can be enhanced to fight against certain fungi, as taught by Sedun et al. and Roberts, J. R.

One of ordinary skill also would have been motivated to select a desirable fatty acid and organic carboxylic acid, and then adjust their amount present in the composition depends on the selected combination of fatty acid and organic carboxylic acid, and the manufacturer's need.

From the teachings of the reference, it is obvious that one of ordinary skill in the art would have had a reasonable expectation of success to arrive at the claimed invention.

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Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

**With respect to claims 19, 20 and 25**, Applicant recites the intended use of the instant composition in that the composition is suitable for dilution and provides as a ready-to-use formulation for application to fruits, vegetables, berries, seeds or nuts after harvesting. However, the intended use of the claimed composition does not patentably distinguish the prior art composition, per se, since such undisclosed use is intrinsic in the reference composition. In order to be limiting, the intended use must create a structural difference between the claimed composition and the prior art composition. In the instant case, the intended use of the instantly claimed composition does not create a structural difference that distinguishes it from the prior art composition, thus the intended use is not limiting.

#### ***Conclusion***

No claims are allowed.

#### ***Contact Information***

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Any inquiry concerning this communication from the Examiner should direct to Helen Mei-Ping Chui whose telephone number is 571-272-9078. The examiner can normally be reached on Monday-Thursday (7:30 am – 5:00 pm). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where the application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either PRIVATE PAIR or PUBLIC PAIR. Status information for unpublished applications is available through PRIVATE PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the PRIVATE PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Mina Haghighatian/  
Primary Examiner  
Art Unit 1616